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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,420	03/12/2004	Raymond H. Kraft	A126.253.102 / 076111-030	8417
7590 11/30/2009 Dicke, Billig & Czaja, PLLC ATTN: Christopher McLaughlin Fifth Street Towers, Suite 2250 100 South Fifth Street Minneapolis, MN 55415			EXAMINER LEE, JOHN W	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 11/30/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/800,420	Applicant(s) KRAFT, RAYMOND H.	
	Examiner JOHN Wahnkyo LEE	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 and 21-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- The application was forwarded to the examiner on 8 September 2009.

Response to Arguments/Amendments

1. Applicant's arguments and amendments filed on 14 July 2009 have been fully considered.
2. Applicant's arguments regarding restriction requirement have been considered. However, the examiner will maintain the restriction because the restriction was proper. So, the restriction will not be withdrawn.
3. Applicant's arguments, with respect to claims 1-15 under 35 U.S.C. 101 have 1, 3 and 4 been considered, but are not persuasive. First of all, claims are not tied to any machines or embodiment structure. Furthermore, the new added claim limitation in claim 1 just seems like a post-activity which does not have any meaningful weight in the claim. So, the rejection cannot be withdrawn.
4. Applicant's arguments regarding the rejections under 35 U.S.C. 102 and 103 have been considered, but are not persuasive. The applicant argues that none of the prior art alone or combined suggest or teach "calculating an absolute location of identified acquired image feature centers relative to the fiducial plate in fiducial coordinates." However, the examiner disagrees with the applicant. In page 361, section 3, Brandle teaches "applying the estimated global rotation and translation to the prior guide spot locations resulting in transformed prior guide spot locations and assign the detected guide spot locations to the grid nodes", which reads on "calculating an

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absolute location of identified acquired image feature centers relative to the fiducial plate in fiducial coordinates." The terms and the way how the words are written might be different. In the perspective of the broadest reasonable claim interpretation, the part of Brandle reads good enough to anticipate the claim limitation, "calculating an absolute location of identified acquired image feature centers relative to the fiducial plate in fiducial coordinates" of the applicant. So, the rejections will not be withdrawn.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1, 3 and 4 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 5, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots").

Regarding claim 1, Brandle discloses a method of fitting acquired fiducial data to a set of fiducials on a fiducial plate; said method comprising (abstract): fitting a fiducial grid model (Chapter 1; page 358, "grid ζ ") to data (chapter 1; page 358, "spot array") acquired by an imaging apparatus (page 358, "imaging device") captured such that features are positioned (page 358, "represented as a MXN matrix S ") in space (page 358, "Cartesian spatial coordinates (x,y) ") relative to the fiducial plate (page 358, "nodes in $\{1 \dots IG\} \times \{1 \dots JG\}$ "); establishing a conversion (Chapter 3; page 361, "grid rotation angle" and "guide translation vector") from acquired coordinates (page 358, "Cartesian spatial coordinates (x,y) ") to ideal fiducial coordinates (section 3.4; page 363, "node (i,j) "); and calculating (Chapter 3; page 361, "applying the estimated global rotation and translation to the prior guide spot locations resulting in transformed prior guide spot locations and assign the detected guide spot locations to the grid nodes") an absolute location (Chapter 3; page 361, "locations") of identified acquired image feature (page 361; "guide spot") centers relative to the fiducial plate in fiducial plate coordinates (page

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358, "nodes in {1... IG"} X {1 ... JG}); and based on at least one calculated absolute location of the identified acquired image feature centers, selectively modifying a structure represented by the identified acquired image feature center (chapter 3, page 361. "determine locations for all the nodes in the global grid").

Regarding claim 5, Brandle discloses comprising assuming that a rotation of said imaging apparatus relative to a fiducial grid is negligible (page 359, "Rotations ...").

Regarding claim 16, claim 16 is analogous and corresponds to claim 1. See rejection of claim 1 for further explanation.

Regarding claim 20, claim 20 is analogous and corresponds to claim 5. See rejection of claim 5 for further explanation.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-3, 17-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots") in view of Segman (US 6,178,272)

Regarding claim 2, Brandle discloses all the previous claim limitations except the ones specified in claim to. However, Segman discloses said fitting comprises identifying

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fiducial coordinates for each fiducial captured in said data acquired by said imaging apparatus (col. 22, lines 65-67; col. 23, lines 1-7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Segman's invention in Brandle's invention to provide a method applicable and easily extendable as suggested by Brandle (chapter 5; page 366).

Regarding claim 3, Segman further discloses further comprising selectively iterating said identifying coordinates for each fiducial and said calculating an absolute location of identified acquired image feature centers (Fig. 3-(11), "... repeating steps (1) through (10)").

Regarding claim 17, claim 17 is analogous and corresponds to claim 2. See rejection of claim 2 for further explanation.

Regarding claim 18, claim 18 is analogous and corresponds to claim 3. See rejection of claim 3 for further explanation.

Regarding claim 21, claim 21 is analogous and corresponds to claim 3. See rejection of claim 3 for further explanation.

11. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots") in view of Kwon et al. (US 5,091,972).

Regarding claim 4, Brandle discloses all the previous claim limitations except the one specified in claim 4. However, Kwon discloses that said calculating comprises utilizing a linear least squares operation (claims 1 and 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Kwon's invention in Brandle's invention to provide an efficient and quick method of the fit parameters as suggested by Kwon (col. 2, lines 29-31).

Regarding claim 19, claim 19 is analogous and corresponds to claim 4. See rejection of claim 4 for further explanation.

12. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots") in view of Correa et al. (US 6,340,114).

Regarding claim 6, Brandle discloses all the previous claim limitations except the one recited in claim 6. However, Correa discloses a charge-coupled device camera (col. 4, line 1, "CCD").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Correa's invention in Brandle's invention to provide light gathering efficiency and immediate image availability.

Regarding claim 7, Correa further discloses that said imaging apparatus comprises a complementary metal-oxide semiconductor device (col. 4, line 3, "CMOS").

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN Wahnkyo LEE whose telephone number is (571)272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

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Customer Service Representative or access to the automated information system, call
800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Wahnkyo Lee/
Examiner, Art Unit 2624

/Samir A. Ahmed/

Supervisory Patent Examiner, Art Unit 2624